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EXAMINER

SCHWARTZ, JORDAN MARC

ART UNIT

PAPER NUMBER

2873

DATE MAILED: 12/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,112

Applicant(s)

BLUM ET AL.

Examiner

Jordan M. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 31 and 32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-23, 25-27, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 15, 24 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/13/04, 7/7/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed in this case fails to comply with 37 CFR § 1.56(b), which states that information is material to patentability which is **NOT CUMULATIVE** to information...being made of record in the application. Specifically, applicant has cited twelve pages of references for consideration and additionally has cited an entire magazine (Eye Care Business) without setting forth relevant pages within. The examiner believes that the thick stack of references for consideration is largely cumulative and, therefore, based upon the large number of references cited, the initialed references have been considered in a cumulative manner.

For applicant's further information, the IDS received August 9, 2004 was not properly scanned and the examiner has requested rescanning. It is also suggested that applicant resubmit this IDS in case the IDS of August 9, 2004 is missing pages.

Election/Restrictions

Applicant's election with traverse of Group Ia, claims 1-30 in the reply filed on October 14, 2004 is acknowledged. The traversal is on the ground(s) that the claims of the designated groups have not acquired a separate status and that it would not be an undue burden on the examiner to search all of the claims together. This is not found persuasive for the following reasons. The Group I claims are directed to a method of manufacturing an electro-active lenses on a surface of a lens and then forming a covering layer or forming an electro-active lens around an electro-active element and a conductive bus and Group II is directed to an electro-active lens with a conductive bus

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that does not require a covering layer or the lens being formed around an electro-active element. The examiner believes that the different inventions have acquired a separate status by their different classification and regardless, the search required for Group I is not required for Group II. Furthermore, it would be an undue burden for the examiner to search all of the claims together. The claim 1 embodiment requires a covering layer, which is not required for searching Group II or Group Ib. Furthermore, Group Ib requires searching the forming of a lens blank around an electro-active element and a conductive bus which is a separate and different species than Group Ia which requires, not forming a lens around the electro-active element but, instead, forming the electro-active element on a surface of the lens and then forming a covering layer over the electro-active lens. It would clearly be an undue burden for the examiner to search all of the claims together.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

Claims 22, 25-26, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 22, applicant is claiming a "lens" but is then claiming zero optical power which is inconsistent rendering the claim vague and indefinite. A lens will inherently by definition either converge or diverge light and therefore will inherently have an optical power. It is not clear if the claim 22 embodiment is using a flat glass plate, i.e.

not a lens or if some other meaning is intended and the lack of clarity renders the claim vague and indefinite.

With respect to claim 25, applicant is claiming “unconventional” refractive error and it is not clear what is specifically meant by this term rendering the claim vague and indefinite. The specification in paragraph 0032 describes “non-conventional refractive error...such as aberrations, irregular astigmatism, or ocular irregularities” and in paragraph 0034 describes “non-conventional refractive error can include...” and the claimed “such as” and “can include” renders the claim vague and indefinite. It is not clear if applicant is using the terms “unconventional” and “non-conventional” interchangeably, and, if so, by stating “such as” and “can include” it is not clear what other refractive errors would be considered as “unconventional” and the lack of clarity renders the claims vague and indefinite. For purposes of examination the assumed meaning of “unconventional refractive errors” are refractive errors for aberrations, irregular astigmatism, and ocular irregularities.

With respect to claims 26, applicant is claiming “conventional” refractive error and it is not clear what is specifically meant by this term rendering the claim vague and indefinite. It is not clear what refractive errors are considered as “conventional” and if specific errors are intended, then they should be specifically claimed. In the specification, paragraph 0034, applicant states conventional refractive error “can include myopia, hyperopia, astigmatism and/or presbyopia” and the claimed “can include” renders the claim vague and indefinite. For purposes of examination, the assumed

meaning of "conventional refractive error" is refractive errors for myopia, hyperopia, astigmatism, and presbyopia.

With respect to claim 30, the claim states that it depends from claim 31 which is not in compliance with the MPEP requiring dependency on a previous claim and "the covering layer" would further lack an antecedent basis. It is therefore presumed that claim 31 meant to depend from a previous claim but it is not clear as to the intended dependency rendering the claim vague and indefinite. For purposes of examination it is assumed that claim 30 meant to depend from claim 29.

Claim Objections

Claim 3 is objected to because of the following informality: line 1 should be changed to state, "the forming of a recess" which is an apparent inadvertent error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 11-12, 16-17, 20, 23, 26, 29-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Large patent number 5,712,721.

Large reads on these claims by disclosing the limitations therein including the following: a method of manufacturing an electro-active lens (column 1, line 53 to column 2, line 26); providing a lens blank comprising a front an back lens surface, thickness,

and refractive index (Figure 4, column 3, line 59 re "lens 21"); placing an electro-active element on a surface of the lens (column 3, line 65 with the liquid crystal in the spaces of the annular steps of lens "21" i.e. on surface of the lens having the refractive steps); forming a covering layer over the lens blank containing the electro-active element (Figure 4 re element "23" is covering the surface with the electro-active element and can be considered as a "covering layer"). The lens "21" of Large will inherently be either semi-finished, unfinished or finished based upon what is disclosed in Large, such as the lens being formed by molding (column 3, line 59). Large further discloses forming a recess in the surface of the lens blank for receiving the electro-active element (Figure 4 with the diffractive steps forming recesses); the recesses formed by molding (column 3, line 59); the electro-active element connected to a controller and power source (column 4, line 1, column 5, line 15); the power source contained within the electro-active lens (Figure 4, column 4, line 1); the covering layer formed by molding (column 3, line 59); the electro-active element providing a refractive change and correcting for conventional refractive error as this term is understood (column 4, lines 30-39); and the covering layer as a lens wafer (Figure 4).

Claims 1-2, 11-12, 21, 23, 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Schachar patent number 4,300,818.

Schachar reads on these claims by disclosing the limitations therein including the following: a method of manufacturing an electro-active lens (abstract); providing a lens blank comprising a front and back lens surface, thickness, and refractive index (Figure 2, column 3, line 54 re "lens 40"); placing an electro-active element on a surface of the

lens (column 3, lines 52-62 re liquid crystal material on the surface of lens 40); forming a covering layer over the lens blank containing the electro-active element (Figure 2 re element "46" or electrodes "58" as covering the surface with the electro-active element and either can be considered as a "covering layer"). The lens "40" of Schachar will inherently be a finished lens based upon what is disclosed in Schachar such as the lens providing optical correction (column 4, lines 1-26). Schachar further discloses the electro-active element connected to a controller and power source (Figure 8); the optical power of the lens blank having an optical power equal to a wearer's distance prescription (column 4, line 20); the electro-active element providing a refractive change and correcting for conventional refractive error as this term is understood (column 4, lines 1-26).

Claims 1-2, 11-12, 19-20, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Black et al patent number 5,184,156.

Black et al reads on these claims by disclosing the limitations therein including the following: a method of manufacturing an electro-active lens (abstract); providing a lens blank comprising a front an back lens surface, thickness, and refractive index (Figure 2, element "126a"); placing an electro-active element on a surface of the lens (Figure 2, "158", column 4, line 30); forming a covering layer over the lens blank containing the electro-active element (Figure 2 re element "126b" as covering the surface with the electro-active element and can be considered as a "covering layer"). The lens of black et al will inherently be a semi-finished, unfinished, or finished lens based upon what is disclosed in Black et al. Black et al further discloses the electro-

active element connected to a controller and power source (abstract); the covering layer formed by conformal sealing (Figure 2); the covering layer formed by a lens wafer (Figure 2); and the wafer having zero optical power (Figure 2 re planar surfaces).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schachar in view of Smarto patent number 6,213,602.

Schachar discloses as is set forth above including the electro-active element as a film used within an ophthalmic lens (abstract) but does not specifically disclose the element connected to an electrical bus, the bus as flexible, the bus at least partially encircling the element, the bus connected to a transparent lead in the periphery, and the bus comprising a plurality of transparent radiating leads. Smarto teaches that in an electro-active ophthalmic lens comprising an electro-active film (column 1, lines 5-11, column 2, line 22 to column 3, line 9) that it is desirable to use an electrical bus (column 2, lines 21-59), the bus as flexible (column 3, line 10, column 5, lines 28-35 re the specific metals claimed as flexible metals); the bus at least partially encircling the element (Figure 2, column 3, line 10), the bus connected to a lead in the periphery (Figure 2, column 3, lines 10-25), and the bus comprising a plurality of radiating leads (Figure 2 re leads "9" and "10") for the purpose of providing the required electrical connection in an

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electro-optic device (column 1, lines 5-11). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-active film within the electro-active element of Schachar as being connected to a bus bar and the bus bar having the specifics as stated above, since Smarto teaches of the desirability of using a bus bar with an electro-active film within an electro-active element and for the bus bar to have the specifics set forth above for the purpose of providing the required electrical connection within the electro-optic element. The examiner takes Judicial Notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made for the electro-active lead to be transparent since the lead is being used within a transparent optical device for the purpose of having the lead as undetectable as possible. Therefore, it would have been further obvious to a person of ordinary skill in the art at the time the invention was made to have the lead as transparent for the purpose of having the lead as undetectable as possible. The examiner further takes Judicial Notice that it is well known in the field of electrical systems for bus bars to have a perforation within them for the purpose of providing a hole in which to connect the lead to the bus bar. Therefore, it would have been further obvious to a person of ordinary skill in the art at the time the invention was made to have a perforation within the bus bar for the purpose of providing a hole in which to connect the lead to the bus bar.

Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schachar in view of Gregory patent number 6,099,117.

Schachar discloses as is set forth above including the power source connected to the eyeglass frame (column 3, line 46) but does not specifically disclose the power source connected to a hinge or temple of the frame. Gregory teaches that in an electro-optical ophthalmic lens device having a power source (abstract, column 1, lines 6-14) that it is desirable to have the power source within a hinge or temple for the purpose of inconspicuously holding the power source on the frame of the lens (column 1, line 6 to column 2, line 54, column 3, lines 24-35). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the power source of Schachar connected to a hinge or temples of the frame since Schachar discloses the power source on the frame and Gregory teaches that in an electro-optical ophthalmic lens device having a power source, that it is desirable to have the power source within a hinge or temples for the purpose of inconspicuously holding the power source on the frame of the lens.

Claims 17-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schachar.

In reference to these claims, Schachar discloses as is set forth above including the covering layer as a lens (Figure 4) but does not specifically disclose the lens formed by molding, surface casting or as a lens wafer. The examiner takes Judicial Notice that it is well known in the art of ophthalmic lenses to form such lenses by molding, surface casting or from lens wafers for the purpose of providing a efficient way of producing ophthalmic lens elements. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the lens element of

Schachar as formed by molding, surface casting, or as a lens wafer since the examiner takes Judicial Notice that it is well known in the art of ophthalmic lenses to form such lenses by molding, surface casting or from lens wafers for the purpose of providing a efficient way of producing ophthalmic lens elements.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Large.

Large discloses as is set forth above but does not specifically disclose the covering layer formed by conformal sealing. However, Large teaches that the electro-active element can be conformally sealed within the lens for the purpose of providing an outer protection to the element (Figure 2, column 2, lines 52-61). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have covering layer of Large as being formed by conformal sealing since Large teaches that the electro-active element can be conformally sealed within the lens for the purpose of providing an outer protection to the element.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schachar in view of Nishioka publication number 2004/0179280.

Schachar discloses as is set forth above but does not specifically disclose the refractive index changing to correct for unconventional refractive error (as this term is understood). Nishioka teaches that in an electro-optical element providing refractive index changes, that it is desirable for the index changes to correct for aberrations i.e. unconventional refractive errors for the purpose of providing a lens of reduced aberrations and therefore increased performance (abstract, paragraph 229). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the

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invention was made to have the electro-active lens of Schachar as providing for a refractive index change to correct for unconventional refractive error since Nishioka teaches that in an electro-optical element providing refractive index changes, that it is desirable for the index changes to correct for aberrations i.e. unconventional refractive errors for the purpose of providing a lens of reduced aberrations and therefore increased performance.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schachar in view of Piosenka patent number 5,359,444.

Schachar discloses as is set forth above including the eyeglass lens having an eye tracking system and providing variable focusing powers for viewing near and far objects but does not specifically disclose the use of a view detector. Piosenka teaches that in an electro-optic ophthalmic lens providing variable focusing powers for viewing near and far objects (abstract) that it is desirable to have a view detector for the purpose of providing auto-focusing (column 5, line 43 to column 6, line 25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the electro-optic ophthalmic lens of Schachar as further including a view detector since Piosenka teaches that in an electro-optic ophthalmic lens providing variable focusing powers for viewing near and far objects that it is desirable to have a view detector for the purpose of providing auto-focusing.

Examiner's Comments

For applicant's information, due to the broadness of the claims, particularly claim 1, numerous other references would have read or made obvious a number of the above

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rejected claims, however, such rejections would have been repetitive. Specifically, the use of hard coat coatings and scratch resistant coatings are well known in the art of ophthalmic lenses and either could be considered as an "outer covering". For example, references Quaglia patent number 5,739,959 and Oqaue et al patent number 5,015,086 disclose electro-optical ophthalmic lenses having hard coat coatings and the coating can be considered as the "outer covering". Marks et al patent number 3,235,315 would have also read on a number of the above rejected claims including the use of a recess, however, such rejections would have been repetitive.

Allowable Subject Matter

Claims 15, 24, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: with respect to the allowable subject matter, none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with respect to claim 15, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing feature in combination with the other limitations, the claimed power source connected to a hingescrew of the spectacle frame. Specifically, with respect to claim 24, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing feature

in combination with the other limitations, the claimed refractive change correcting for higher order aberrations. Specifically, with respect to claim 28, none of the prior art either alone or in combination disclose or teach of the claimed method of manufacturing an electro-active lens, specifically including, as the distinguishing feature in combination with the other limitations, the claimed lens blank and electro-active elements providing the specific refractive error correction as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday (8:00-5:30), alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'JMS', with a large, stylized loop at the end.

Jordan M. Schwartz

Primary Examiner

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December 22, 2004